

ABSTRACT

[0060] A process for the regeneration of a deactivated zeolite beta catalyst such as rare earth promoted zeolite beta catalyst deactivated in the course of an aromatic alkylation reaction. A zeolite beta conversion catalyst deactivated with the deposition of coke is heated to a temperature in excess of 300°C in an oxygen-free environment. An oxidative regeneration gas is supplied to the catalyst bed with oxidation of a portion of a relatively porous coke component to produce an exotherm moving through the catalyst bed. At least one of the temperature and oxygen content of the gas is progressively increased to oxidize a porous component of the coke. Regeneration gas is supplied having at least one of an increased oxygen content or increased temperature to oxidize a less porous refractory component of the coke. The regeneration process is completed by passing an inert gas through the catalyst bed at a reduced temperature.